

Chapter 14

AREA DAMAGE CONTROL (ADC)

Area Damage Control operations include those measures taken before, during, and after hostile actions or natural or man-made disasters to reduce the probability of damage and to minimize its effects. Because of organic equipment and expertise, engineer support will be critical in accomplishing many ADC missions. In the Theater of Operations, disruption or impairment of US or allied efforts in and behind the COMMZ may be caused by one or a combination of three events: enemy action, natural disasters, and man-made disasters.

Forces in the rear area can defeat the Threat and overcome natural or man-made disasters. They can continue to support forward forces by applying the principles and objectives of rear area protection (RAP). Rear area protection operations include Rear Area Combat Operations (RACO) and ADC operations. Rear Area Combat Operations include actions taken to neutralize or destroy enemy forces in the rear area. These operations are conducted by any combination of individual units, base defense forces Military Police (MP) response forces, and tactical combat forces (TCF). They are discussed in FMs 100-10, 100-15, and 100-16.

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AREA DAMAGE CONTROL MISSIONS

ENEMY ACTION

Soviet military doctrine is based upon the belief that modern warfare is highly mobile. Disruption of our efficiency is predicated upon disruption of our rear area operations. This disruption may be directed against command and control centers, communication networks, nuclear weapon sites, supply and maintenance facilities, airfields, ports, and reserve forces. The means of disruption include actions by independent operations and actions closely coordinated with maneuver forces behind the main battle area. These activities may be carried out by airborne units, airmobile conventional units, special

operations teams, and deep cover agents supported by artillery, air attacks, radio-electronic combat and nuclear/chemical assets.

DISASTERS

The potential for man-made disasters has significantly increased through the intensified use and handling of hazardous material. This type of material includes NBC devices, bulk explosives, and POL. In some areas of the world, natural phenomena such as floods, earthquakes, or storms could destroy military operations. Rapid recovery from these events is essential.

MISSION ORGANIZATION

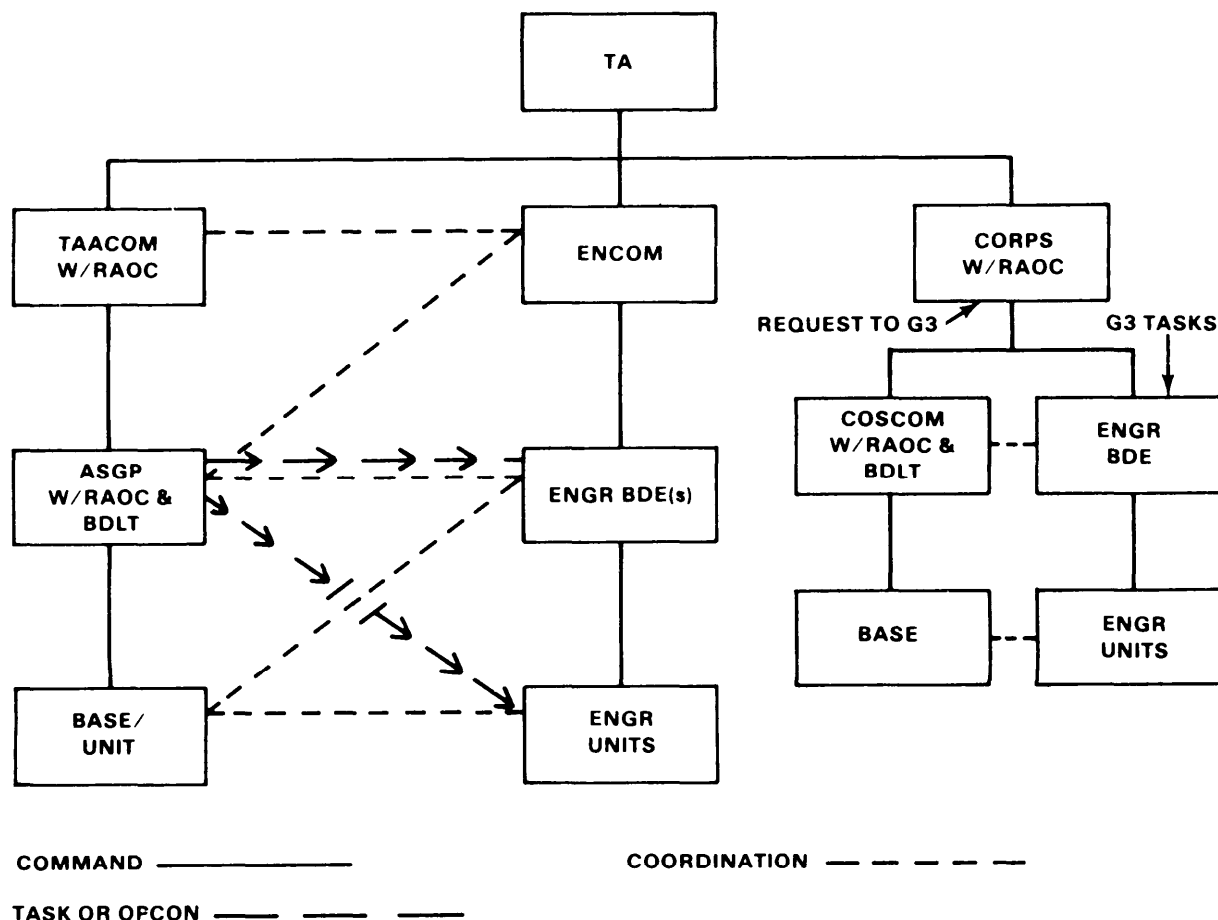
Area Damage Control operations increase as the Theater of Operations evolves from a contingency operation to a fully developed theater with extensive support facilities in the COMMZ. Initial phases of a contingency operation characteristically maximize combat power while keeping support elements and facilities at a minimum. Airlift and sealift assets are heavily relied upon for rapid deployment, reinforcement, and resupply. However, for an extended operation, the key to success in generating maximum combat power is to secure a lodgement area or provide a base for rapid buildup. The decision of the commander to introduce combat support (CS) and combat service support (CSS) units into the lodgment area depends upon how secure the units can be made. Support bases may be forced to operate from ships or a third country.

If the contingency operation is in support of an allied nation and valid agreements and support will ensure security of forces in the rear area, the host nation may provide ADC support for the force. In many cases, this support may consist only of unskilled labor. Expertise must be supplied by organic engi-

neer elements. Where no previous HN agreements exist, civil affairs elements will negotiate with local authorities and the private sector to secure engineer assistance should the need arise. Rear Area Combat Operations may be introduced into the contingency operations, depending on the size of the force conducting the operation and the control the commander wants to exercise over RAP operations.

REAR AREA OPERATIONS

At each echelon, brigade and above, a RAP officer is assigned to ensure that units prepare for and conduct RAP operations in accordance with command priorities. At division level and above, a Rear Area Operations Center (RAOC) is organized to assist the RAP officer by controlling the rear area battle at each echelon. The RAOC provides the G3/Deputy Chief of Staff for Operations (DCSOPS) with operational planning and support to fight the rear area battle. Base defense liaison teams (BDLT) are assigned to each RAOC to coordinate base defense and conduct liaison as directed by the RAOC, as shown on the following page.



ENGINEER COMMANDERS

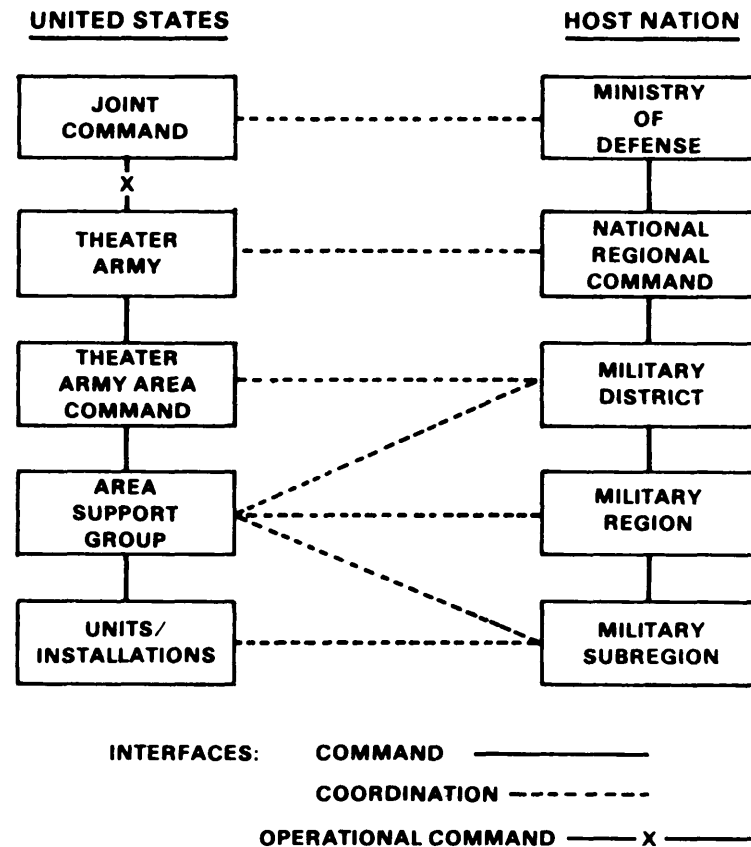
Report to the Echelon Commander.
 Receive ADC Taskings from the Support Commander (Echelons Above Corps Only).
 Plan and Coordinate ADC Operations with the Logistical Planner in Accordance with ROAC Guidance.
 Execute ADC Missions Beyond Capability of Element . . . as Directed by the Support Commander.
 Review Unit, Facility, and Base ADC Plans for Adequacy.
 Assist in Recovery, Repair, and Reconstitution of Resources and Facilities.
 Incorporate ADC Functions into Engineer Units and Staff.

ENGINEER SUPPORT TO AREA DAMAGE CONTROL

The rear area protection structure within a contingency operation will depend on mission, enemy, terrain, troops, and time (METT-T), strategic and tactical intelligence, posture of the host nation, and degree of acceptable risk.

HOST NATION SUPPORT

When HNS is viable, host nations may be responsible for ADC. However, US engineer units may have to conduct ADC operations beyond the perimeters of rear area units. Theater Army area commands and ASGs coordinate ADC support with host nations.



UNITED STATES-HOST NATION INTERFACE FOR REAR AREA PROTECTION

AREA DAMAGE CONTROL ORGANIZATION

Units and bases in the rear area must plan and train for damage contingencies using organic manpower and equipment. The ADC section of the RAOC at each echelon reviews, coordinates, and comments on base ADC plans. Area Damage Control plans are coordinated with units, including supporting

engineers and staffs for ADC support. Alternative areas for ADC support, including individual base capabilities, base cluster assets, and host nation support, are reviewed and included in the ADC plan. Recommendations are made and priorities for ADC support are established based on the commander's directives and the needs of units requiring support. Close coordination is maintained

with the RAOC operations section to develop alternative plans for incidents where extensive damage cannot be resolved. The ADC section provides information on the location and extent of damage to the RAOC for the tasking of engineer assets. These missions do not involve dedicated support, but rather unit-type missions which can be performed by units with ADC-related capability as sufficient assets become available.

Centralized control of ADC assets must be maintained within the ADC section to permit overall analysis of their capability and to prevent piecemeal application of critical assets. Execution of ADC is decentralized to the lowest level. When ADC requirements exceed base or base cluster assets, the RAOC responds with engineer assets to alleviate the problem or initiate action. Their goal is to isolate the damage and to reduce its effects on other supporting units.

ADC RESPONSIBILITIES

The destruction from modern weapons may be so widespread that only essential functions can possibly receive priority assistance from external sources. Accordingly, damage assessment reports and requests for external ADC assistance must be concise. They must address only mission-essential functions. Nuclear attacks so reduce communications that commanders must plan and establish alternate means for reporting damage and coordinating recovery and restoration efforts. External ADC support is provided as assets become available.

ADC UNITS

Area Damage Control Units designate responsibilities for ADC operations and establish ADC priorities. It is their duty to establish communications and warning procedures, and maintain a personnel roster for each facility or activity to expedite casualty rescue or search operations. The ADC unit prepares an analysis of the vulnerability of a facility or unit in relation to its importance as a target. It may plan to disperse and harden facilities and units to reduce the possibility of extensive damage. The unit also designates alternate operational sites or alert areas, and conducts an ADC capabilities analysis. See FM 5-100, Appendix D.

When preparations have been made, the ADC unit coordinates and rehearses ADC plans and Standing Operating Procedures (SOPs). The unit also organizes, equips, and trains personnel and units for ADC operations. Finally, the unit identifies food, water, and other critical supplies such as medicine for emergency distribution.

The RAOC will assist in the operational and technical planning for and coordination of special ADC assistance, such as external engineer support. Each base defense plan will contain an ADC plan to provide a pre-coordinated, decentralized response using organic assets. Priorities of engineer and other external support for ADC assistance will be based upon the degree of exposure of a base or unit and its importance to the main battle effort.

ADC command duties

Unit and base commanders must be prepared to plan for ADC operations by establishing, planning, and executing a damage control plan. It will be their job to supervise and execute recovery, repair, and reconstitution plans in case of enemy attack, natural disaster, or accident. Commanders must organize, train, and equip damage control teams for fire fighting, medical support, NBC

monitoring, surveying, and decontamination. They must incorporate ADC measures into plans and SOPs, ensuring that all ADC plans and SOPs are reviewed for adequacy by the senior engineer officer. Commanders will maintain a personnel roster for each facility or activity to expedite casualty rescue or search operations. They will also establish and test a communications and warning system, identify supplies of food, clothing, water, and fuel for distribution in emergencies.

In the event of a damage incident, the commander must report the incident to the Base Defense Operation Center (BDOC) or Base Cluster Operations Center (BCOC) or command operations section by the fastest means. The commander will be prepared to provide ADC assistance to adjacent bases and units as directed. The command will also provide input to the cluster vulnerability analysis by keeping the BDOC and BCOC informed of changes in its location and status, and coordinate ADC requirements with the appropriate engineer headquarters.

ADC priorities

The ADC unit will carry out its mission by acting promptly in the event of damage incidents. The unit will assess damage and isolate danger areas, providing reports and updates as needed to the base or cluster operation center (BCOC). The unit will prevent and fight fires, and administer medical care and evacuate casualties. Unit personnel will act swiftly to restore mission-essential operations and reestablish communications. The ADC unit must be ready to control traffic and stragglers, to supply emergency food, clothing, water, and fuel to the damaged facility, and to remove or dispose of explosive ordnance. The duties of unit personnel may also include conducting contamination surveys and decontamination operations, and evacuating the dead. All activities should be

coordinated with the appropriate engineer headquarters.

ENGINEER SUPPORT

Depending on the nature, extent, and location of damage, engineer assets from one or several organizations may be required to conduct ADC operations within a given echelon or area.

The Theater of Operations ENCOM plans engineer support required to perform ADC missions in accordance with Theater of Operations engineer mission priorities. Subordinate engineer headquarters may be assigned on-order ADC missions in support of specific area commands, and may be placed in operational control for the mission. Direct coordination occurs between these engineer headquarters and their supported area commands in the development and execution of ADC plans.

Engineer elements charged with ADC missions facilitate these missions by—

- Ž Maintaining liaison with echelon RAOCs.
- Ž Planning and coordinating ADC operations in concert with higher headquarters.
- Ž Reviewing unit and base ADC plans to ensure their adequacy.
- Ž Executing ADC missions beyond unit and base capabilities as directed by the commander.

Engineer units charged with responsibility for a compound must establish their own ADC plans. Development of these plans will take into account the commander's guidance, established priorities, unit capabilities, expected outside support requirements and expected support from host nation sources, and other tactical mission requirements.

DAMAGE ASSESSMENT PLANNING

Engineers will be the primary source of personnel to assist in assessing damage to buildings, roadways, bridges, sewage systems, and electrical systems. This assessment process begins before any incident by determining the amount, location, and type of facilities that are most critical to the support of forward forces and those most susceptible to damage from each type of expected incident. Once damage has occurred, damage survey teams are deployed first to these critical facilities and then to other facilities to determine the extent of damage, and the minimum effort and time required to make repairs to return the facility to mission essential operational capability.

Engineer assistance before an incident may consist of stockpiling select fill material for repair of craters on airstrips and roads. It is advisable to stockpile filler material for sandbags in areas subject to flooding. Engineers may assist in hardening critical facilities and constructing critical command bunkers or air defense positions. Installation of deliberate protective minefields may also be required.

The operations section must be kept current on the status of ADC projects, difficulties encountered, and requirements for additional assistance.

Due to the austere nature of most contingency operations, units should expect to perform the majority of ADC-related missions with organic assets. Engineer assistance will be dedicated to maintaining air and sea lines of communication through construction/repair support to airfields and LOTS facilities. If the situation warrants the establishment of a full RAOC with an ADC support section, contingency engineer forces may be tasked to support ADC operations as they do in a fully developed theater.

REPAIR PRIORITIES

The unit/base commander will determine repair priority based upon the theater commander's guidance, which focuses on facilities that have the greatest impact on the forward battle. Priorities will normally be as follows:

- Ž Assist USAF teams in emergency runway repair.
- Ž Repair air defense emplacements.
- Ž Make permanent repairs to aircraft operating surfaces.
- Ž Assist in repair of USAF facilities required for minimum base operation.
- Ž Make emergency repairs to Army base facilities.
- Ž Assist in repairs to LOCs or MSRs. The mission includes repair of ports, railroads, POL pipelines, and vital bridges.

DAMAGE CONTROL TASKS

Primary engineer effort will be directed toward cleanup after damage has occurred. The main tasks may include rubble clearance, fire protection services, power production and restoration, facility repair, flood damage control, and clearance of tree blowdowns. As determined by the Threat, appropriate security forces should be provided to the engineers due to their vulnerability when engaged in a work project, and to let the engineers do engineering tasks rather than security or civil control tasks. Preventive measures taken before an incident may require engineer support to construct protective fortifications and obstacles.

Rubble clearance

Engineer heavy equipment may be required to facilitate immediate removal of rubble and debris which have direct bearing on the

accomplishment of the mission. Particular care should be taken to avoid further injuring buried survivors. Unexploded ordnance may be located in the debris. Depending upon the acceptable risk of further damage and delay in completing the cleanup, engineers may be required to explode the ordnance in place or mark it for neutralization by EOD personnel. Controlled dumping areas and routes to them must be designated for the clearance.

Fire protection service

Individual units and bases will be expected to conduct their own rudimentary fire fighting operations. The base defense liaison team may be able to coordinate for host nation support. When available, engineer fire fighting teams may be responsible for providing fire protection to facilities. Other engineer elements may assist in containing fires by providing manpower and heavy and light equipment. If the fire is too extensive, it can be limited by firebreaks using engineer equipment and explosives. Knowledge of existing stores of flammables, explosives, and gas lines is imperative to the prevention of further damage.

Power production and restoration

Repair of local power production equipment is an extremely technical task and may require local assistance. When available, engineer electrician teams may provide assistance in repair of in-place equipment, or may be required to install a backup system if damage is too extensive. Rights of way for transmis-

sion routes may need to be cleared or repaired. These operations will generally require the use of heavy equipment.

Facility repair

A wide variety of tasks may be needed to repair facilities. Reference should be made to applicable chapters in this manual. Within a given echelon or area, priority of facility repair will generally follow guidelines discussed in the section on repair priorities (page 118).

Flood damage control

Engineer equipment and expertise may be required to construct or repair dikes, levees, and drainage channels. Storm sewers may require clearing and reconstruction. Filler material for sandbags will be needed and may need to be transported to work sites. In severely flooded areas, temporary work platforms and ferries may be constructed with float bridging equipment. Search and rescue missions may be required by engineer bridge boat crews.

Tree blowdown clearance

Tree blowdown may occur for a variety of reasons, including nuclear strike, conventional bombing or explosives, and natural disasters. The most extensive and hazardous cleanup will result from nuclear strikes. Precautions must be taken to protect work crews. Continuous monitoring for radiation and accurate personnel exposure rosters must be maintained.

SUPPORT OF LARGE-SCALE DECONTAMINATION OPERATIONS

On the AirLand battlefield, enemy forces may employ NBC weapons. Combat operations may also be carried into areas previously struck by these weapons. It is the responsibility of all combat, combat support, and combat service support units to prepare

for and carry out their own decontamination operations. However, they will perform hasty decontamination only, so that they can accomplish their immediate assigned missions (FM 3-5, FM 3-100).

For deliberate and complete decontamination of personnel and equipment of large units, it may be necessary to establish permanent decontamination sites within the Theater of Operations. These sites will allow large-scale, move-through decontamination operations in support of fixed facilities or in unit restoration and reconstitution operations from the COMMZ forward to the division rear. The services of a planned decontamination facil-

ity will enhance the efficiency of units in the following ways:

- Ž Reduce the risk of further injury to troops and civilians.

- Ž Control vapor and runoff hazards.

- Ž Provide a standard, rapidly operating, efficient, fixed facility.

DECONTAMINATION RESPONSIBILITIES

DECONTAMINATION UNITS

Fixed decontamination sites are operated by specially trained and equipped decontamination units assigned to the corps or Theater levels. Such units have overall responsibility for planning, site preparation, operation, and post-operation activities for the decontamination site. They require considerable augmentation from using and supporting units. Support on a semipermanent basis is also required for administration and food service, equipment maintenance, transportation and supply, and engineering support (FM 3-5).

ENGINEER SUPPORT

Engineers tasked to support a large scale decontamination operation can expect to be assigned to the tasks and responsibilities described below.

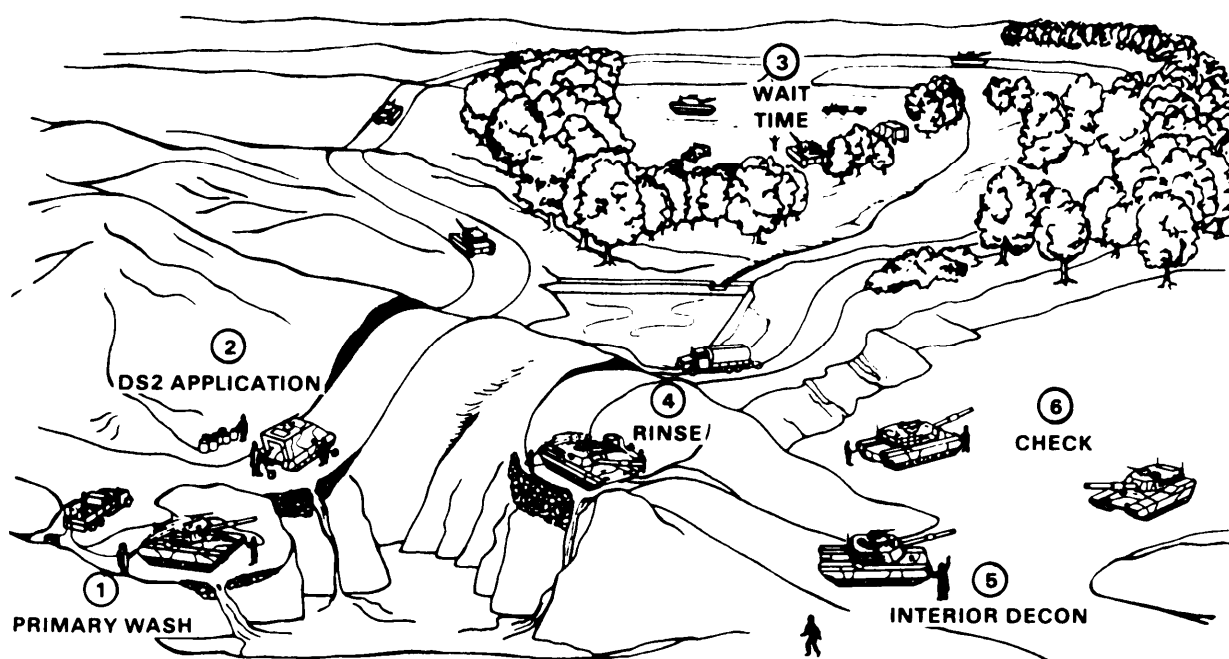
Route reconnaissance

Perform route reconnaissance from the battle area or the installation to the decontamination site. Route selection will be coordinated with the NBC unit that has overall responsibility for the decontamination site. One alternate route should be chosen if possible, to avoid unnecessary decontamination of the MSR and other LOCs. Any access routes to the decontamination site should be a safe distance from uncontaminated civilian and military areas. Final selection of the routes to the decontamination site is the responsibility of the area commander.

Engineers may assist the NBC reconnaissance element in reconnaissance and selection of the decontamination site (FM 3-5). Final selection is the responsibility of the unit command, with assistance from the NBC unit. However, engineers may provide advice and assistance on site selection, preparation, and maintenance, water supply, setup and shutdown operations, and decontamination operations.

Site selection

Final selection of a fixed decontamination site is the responsibility of the local commander, usually assisted by the NBC unit in charge. The engineer unit commander, however, should be aware of requirements for such an area (FM 3-5). A fixed decontamination site should be easily accessible but out of contamination range of populated areas. It should be large enough to accommodate planned operations, and have drainage and soil characteristics favorable for operations and storage of contaminated materials. Water is an integral part of the decontamination process. Though nonpotable water is used, it must be available and uncontaminated in sufficient quantities or the decontamination operation will cease to function. The site should also be favorable for camouflage and concealment.



VEHICLE DECONTAMINATION WASHING POINT

Site preparation

Engineers may help to determine the drainage and contamination storage characteristics of the site, and overall site suitability for vertical and/or horizontal construction. They can also provide estimates of the approximate time and effort required for engineer preparation of the site. Engineers are also responsible for preparing and maintaining access and egress routes to the site and the road network within it. The design life of these routes should not exceed the planned duration of the decontamination operation.

The work required to prepare and maintain the site is determined by the NBC unit responsible for the site, but can be expected to include clearing and grading, drainage analysis and construction of drainage facilities and hazardous waste holding facilities. Horizontal construction and maintenance of showers, wash racks, and other structures as required, and hardening of the site are also engineer tasks.

Normal engineer construction planning and estimating is accomplished in accordance with standing operating procedures. Because decontamination operations are essentially a temporary mission, design of all facilities should be for a duration not to exceed the length of decontamination operations. Effects of climate and terrain will strongly influence decontamination operations and their engineer support. Specific guidance regarding environmental factors is found in FM 5-100, FM 90-3, FM 90-5, and FM 90-6.

Water supply improvement

Well drilling, water source improvement, and other support may be required to help the Quartermaster unit supply potable water for the decontamination site (TM 5-700).

Assistance in site setup and shutdown

Engineer support may be required in materials handling, earth moving, and other tasks as required.

Assistance in area decontamination operations

Decontamination of roads, bridges, structures, and selected areas of terrain is a long and arduous task requiring extensive aug-

mentation from engineers and other supporting units. Responsible NBC units will determine requirements for area decontamination (FM 3-5).

PLANNING AND OPERATIONS

PLANNING

All planning must be done in close coordination with the responsible NBC unit. The most important initial planning factor is to calculate procedures for working in a contaminated area and the effects these will have upon normal engineer operations. Mission-oriented protection posture (MOPP) level will be set by the local commander based upon information gained from the responsible NBC unit. Drastically reduced efficiency will result from operations in MOPP and repeated but necessary decontamination of personnel and equipment (FM 3-100).

ENGINEER SUPPORT

Limited special training may be required for personnel conducting engineer support in a contaminated area. It can be expected that engineer support will be required on a frequent or constant basis for the duration of decontamination operations. Maintenance of site road networks and drainage will require constant attention. In the event of a nuclear

environment, engineer support may first be required to clear rubble, blowdown, and re-establish LOCs before supporting decontamination operations. Shutdown of a large decontamination site may involve extensive earthwork and hauling of contaminated material. Engineer support in this phase of the decontamination operations may meet or exceed all other engineer support requirements combined.

STORAGE OF CONTAMINANTS

A large decontamination site generates quantities of contaminated water and materials. The NBC unit in charge of the site plan is responsible for permanent disposal of these materials. Engineers, however, are involved in temporary storage of these materials, particularly contaminated water. Extreme care must be taken to prevent escape of contaminated water or materials into the surrounding area, especially into potable water sources and sanitation systems.